

U.S. Environmental Protection Agency
Office of Pollution Prevention and Toxics

INTERPRETIVE GUIDANCE FOR THE FEDERAL PROGRAM
TSCA SECTIONS 402/403

FINAL 03/14/02

Q/A(11) Definition of Soil Sample

“Work practice standards”

“403 rule”

§745.63 Definitions.

“Soil sample” means a sample collected in a representative location using ASTM E1727, “Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques,” or equivalent method.

§745.65 Lead-based paint hazards.

(c) Soil-lead hazard. A soil-lead hazard is bare soil on residential real property or on the property of a child-occupied facility that contains total lead equal to or exceeding 400 parts per million (g/g) in a play area or average of 1,200 parts per million of bare soil in the rest of the yard based on soil samples.

§745.227 Work practice standards for conducting lead-based paint activities: target housing and child-occupied facilities.

(a) Effective date, applicability, and terms. (3) Documented methodologies that are appropriate for this section are found in the following: The U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing; the EPA Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil; the EPA Residential Sampling for Lead: Protocols for Dust and Soil Sampling (EPA report number 7474-R-95-001); Regulations, guidance, methods or protocols issued by States and Indian Tribes that have been authorized by EPA; and other equivalent methods and guidelines.

(h) Determinations. (4) A soil-lead hazard is present:

(i) In a play area when the soil-lead concentration from a composite play area sample of bare soil is equal to or greater than 400 parts per million; or

(ii) In the rest of the yard when the arithmetic mean lead

concentration from a composite sample (or arithmetic mean of composite samples) of bare soil from the rest of the yard (i.e., non-play areas) for each residential building on a property is equal to or greater than 1,200 parts per million.

Q1: The definition of “soil sample” at §745.63 references certain American Society of Testing Materials (ASTM) standards. However, the work practice standards at §745.227(a)(3) refer only to certain EPA and HUD guidance documents as documented methodologies. Do the EPA and HUD documents provide any methods that EPA considers equivalent to the ASTM standards in the definition?

A1: Yes. EPA did not provide a definition of “soil sample” in the proposed TSCA section 403 rule. However, as noted in a discussion of the definition of “wipe sample,” EPA received public comments that more specific criteria for the wipe should be included. See Q/A(10) Definition of wipe sample. When preparing the final rule, EPA decided that in addition to clarifying the definition of “wipe sample,” it was also important to develop a clear definition of “soil sample.” EPA took a similar approach and referred to specific ASTM standards but also included the reference to equivalent methods.

In establishing work practice standards for lead-based paint activities at §745.227, EPA was not prescriptive but instead required that most activities be conducted using appropriate documented methodologies. For example, §745.227(c)(3) requires that dust samples be taken using documented methodologies that incorporate adequate quality control procedures. At §745.227(a)(3), EPA lists documented methodologies that are appropriate for the work practice standards, including the HUD Guidelines and certain EPA methodologies, and also states that “other equivalent methods” are acceptable.

Soil samples are generally collected using either the core or the scoop approach. For both approaches, EPA believes that the most important procedures to be described are those for sample collection, sample documentation, and contamination avoidance.

For example, ASTM’s E1727-95, “Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques,” EPA’s “Protocol for Collection of Soil Samples for Lead Determination ” (pp. 6-14 of “Residential Sampling for Lead: Protocols for Dust and Soil Sampling, Final Report,” EPA 747-R-95-001, March 1995), and HUD’s Appendix 13.3: “Soil Sampling: Protocol for Housing,” (“Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,” June 1995) were compared. All three

documents provide instructions for both the core and the scoop methods of soil sampling. These documents all contain detailed procedures for sample collection, sample documentation, and contamination avoidance. EPA believes that the basic procedures in these documents are sufficiently similar to be considered “equivalent methods “ as well as documented methodologies”.